



Commonwealth Edison  
Quad-Cities Nuclear Power Station  
Post Office Box 21  
Cordova, Illinois 61242  
Telephone 309/654-2241

BBS-73-108  
May 23, 1973



Mr. Angelo Giambusso  
Deputy Director for Reactor Projects  
Directorate of Licensing  
United States Atomic Energy Commission  
Washington, D. C. 20545

Reference: Quad-Cities Nuclear Power Station  
Docket No. 50-265  
DPR-30, Appendix A, Section 6.6.C.2

Dear Mr. Giambusso:

The purpose of this letter is to report the discovery of missing components while modifying an electromatic relief valve and Main Steam Isolation Valve leakage in excess of the Technical Specification acceptance criteria. This unusual event occurred on Unit 2 and was reported to Region III Compliance by telephone.

During a recent two week planned outage on Unit 2, April 21 - 30, the disc retainer locking mechanism was modified on all electromatic relief valves. This modification was being performed as a result of failures at other BWR's in which this mechanism failed and caused the valve to stick open. The modification consisted of disassembling the relief valves, drilling through the disc retainer and installing a bolt with a castle nut and cotter pin to hold the locking arm in place. Locking wire used in the original design of the mechanism was eliminated. All pilot valves were also disassembled, inspected, and cleaned.

When valve 2-203-3E was disassembled the original locking arm, lock screw and lock wire were discovered missing. The 3E valve is on the "B" steam line and is the upstream valve of the electromatics on that line. Visual inspection of the tapped threads in the disc retainer revealed them to be discolored which would indicate that the lock arm, lock screw, and lock wire had been missing for some time.

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An inspection of the B steam line in the vicinity of the relief valve was conducted with a mirror, however, none of the missing pieces were found. In addition none of the missing parts were found in the valve pilot. The valve disc retainer was in place and tight thus it can be concluded that the valve was completely operable at all times.

The most likely location of the missing parts is in the turbine stop valve screens. This location presents no safety problem and further searching for the parts was discontinued.

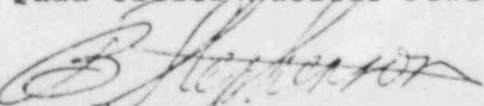
It was postulated that in passing through the Main Steam Isolation Valves these parts may have damaged the seating surfaces. On April 27, 1973, the volume between MSIV's 2-203-1B and 2B was leak tested at 25 psig. The leak rate was determined to be 52.4 scf/hr which is in excess of the Technical Specification acceptance criteria. This increase from the measured leakage of 3.5 scf/hr during the preoperational test, however, did not result in exceeding the limit for the total primary containment.

Disassembly and inspection of both MSIV's did not reveal any significant damage or deterioration of the main valve seats. Two deep gashes were discovered, however, in the pilot stem of the inboard valve. While this could not be directly attributed to the parts from the relief valve, it is certain that this was the major cause of the leak rate test failure. Concentric circles which were made by normal valve operation were also observed on the pilot stem of the outboard valve. The pilot stems of both valves were machined to remove all defects. The main valve seating surfaces were also lapped under the supervision of a vendor representative. Following re-assembly the measured leak rate past both valves was 3.25 scf/hr on April 30, 1973, well within the acceptance criteria of 11.5 scf/hr per valve.

All electromatic relief valves on both units at Quad-Cities have now been modified. No problems were experienced with any of the Unit 1 valves.

Very truly yours,

COMMONWEALTH EDISON COMPANY  
Quad-Cities Nuclear Power Station



B. B. Stephenson  
Plant Superintendent